

WHAT IS CLAIMED IS:

1. An endoscopic device, comprising:

an endoscope having proximal and distal ends;

an extension arm passing through a channel in the endoscope to the distal end of the endoscope; and

a head attached to a distal end of the extension arm wherein the head includes a vision member capable of receiving an image of a surgical site.
2. The endoscopic device of claim 1, wherein the head is moveable toward and away from the distal end of the endoscope on the extension arm.
3. The endoscopic device of claim 1, wherein the head includes at least one light source and the vision member includes at least one vision chip.
4. The endoscopic device of claim 1, wherein the head includes first and second light sources.
5. The endoscopic device of claim 1, wherein the vision member includes first and second vision chips.
6. The endoscopic device of claim 1, wherein the head includes a proximal face and a distal face, and wherein the proximal face is closest to the distal end of the endoscope.

7. The endoscopic device of claim 1, wherein the head includes a first light source on a distal face of the head and the vision member includes a first vision chip on the distal face.

8. The endoscopic device of claim 7, wherein the head includes a second light source on a proximal face of the head and the vision member includes a second vision chip on the proximal face.

9. The endoscopic device of claim 1, wherein the extension arm includes electrical leads to supply power to the head.

10. The endoscopic device of claim 1, wherein the proximal end of the endoscope includes an actuator for controlling movement of the extension arm and head.

11. The endoscopic device of claim 10, wherein the actuator includes an extension control, a retraction control, and a rotation control.

12. The endoscopic device of claim 11, further including a connection between the head and the extension arm that permits articulation of the head relative to the extension arm, and an angular control at the proximal end of the endoscope for controlling the articulation of the head.

13. The endoscopic device of claim 12, wherein the connection includes a ball joint.

14. The endoscopic device of claim 1, wherein the vision member includes a vision chip, and the extension arm includes electrical leads to carry data from the vision chip to circuitry external to the endoscope.

15. The endoscopic device of claim 1, wherein the vision member is a vision chip.

16. The endoscopic device of claim 1, further comprising a second working channel in the endoscope.

17. The endoscopic device of claim 1, wherein the vision member is a mirror.

18. The endoscopic device of claim 17, wherein the mirror is configured to reflect an image of the surgical site to a distal face of the endoscope.

19. An endoscopic device, comprising:
an endoscope having proximal and distal ends,
an extension arm passing through a channel in the endoscope to the distal end of the endoscope; and
a mirror attached to a distal end of the extension arm.

20. The endoscopic device of claim 19, wherein the mirror is moveable toward and away from the distal end of the endoscope on the extension arm.

21. The endoscopic device of claim 19, wherein the mirror is a parabolic mirror.

22. The endoscopic device of claim 21, wherein a parabolic surface of the mirror faces the distal end of the endoscope.

23. The endoscopic device of claim 19, further including a vision chip on a distal end of the endoscope.

24. The endoscopic device of claim 19, further including a light source on a distal end of the endoscope.

25. The endoscopic device of claim 19, wherein the proximal end of the endoscope includes an actuator for controlling movement of the extension arm and mirror.

26. The endoscopic device of claim 25, wherein the actuator includes an extension control, a retraction control, and a rotation control.

27. The endoscopic device of claim 26, further including a connection between the mirror and the extension arm that permits articulation of the mirror relative to the extension arm, and an angular control at the proximal end of the endoscope for controlling the articulation of the mirror.

28. The endoscopic device of claim 27, wherein the connection includes a ball joint.

29. The endoscopic device of claim 23, wherein the vision chip is in communication with distortion correction means for correcting distortion of an image due to the mirror.

30. The endoscopic device of claim 29, wherein the distortion correction means includes a digitizing element.

31. The endoscopic device of claim 30, wherein the distortion correction means includes computer software.

32. A method for viewing a surgical site in a body lumen, comprising:
placing a distal end of an endoscope into a body lumen;
extending an extension arm to move a distal end of the extension arm away from a distal end of the endoscope; and
viewing the surgical site with a vision member attached to the distal end of the extension arm, the surgical site being proximal to the vision member.

33. The method of claim 32, further comprising transmitting an image of the surgical site to a video display.

34. The method of claim 32, wherein the extending includes moving a head attached to the distal end of the extension arm.

35. The method of claim 34, further including rotating the extension arm and head.

36. The method of claim 34, further including articulating the head with respect to the extension arm.

37. The method of claim 34, wherein the vision member includes a vision chip, and viewing includes actuating the vision chip and a light source on a proximal surface of the head.

38. The method of claim 37, further including actuating a vision chip and light source on a distal surface of the head to provide an image distal to the head.

39. The method of claim 32, wherein the vision member includes a parabolic mirror, and the extending includes moving the parabolic mirror attached to the distal end of the extension arm.

40. The method of claim 39, further including rotating the extension arm and parabolic mirror.

41. The method of claim 39, wherein the viewing includes actuating a vision chip and a light source on a distal end of the endoscope.

42. The method of claim 41, wherein the viewing further includes reflecting an image from the parabolic mirror to the vision chip.

43. The method of claim 42, further comprising correcting distortion of the image.

44. The method of claim 43, wherein correcting distortion includes running a software program to correct the image to an orthographic format.